

Search and Rescue

The Ministry of Transport maintains Coast Guard Rescue Officers at the Canadian Armed Forces Search and Rescue centres at Halifax, N.S., Trenton, Ontario, and Vancouver, B.C. Each of these centres is the headquarters for a co-ordinated network of agencies trained to search for and rescue vessels in distress.

The Coast Guard Rescue Officers at these centres distribute booklets covering the marine rescue organization for their respective areas. These booklets may be obtained free of charge on application to the following:-

Atlantic Area: Coast Guard Rescue Officer, Room 116, Maritime Headquarters, H.M.C. Dockyard, Halifax, N.S.	Great Lakes Area: Coast Guard Rescue Officer, Air Transport Command, Canadian Forces Base, Trenton, Ont.	Pacific Area: Coast Guard Rescue Officer, Kitsilano Coast Guard Base 1661 Whyte Ave., Vancouver 9, B.C.
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Here is how you and your fellow power boat operators and owners of sailboats can assist in searches and help cut down on false alarms.

- Your boat or yacht club should appoint a safety officer for the day or week and all arrivals and departures should be reported to him.
- If you plan to go on a cruise, give your safety officer an itinerary, with estimated times of departure and arrival at your destination.
- If you do not belong to a yacht club, you should acquaint a relative, neighbour or some responsible adult with your itinerary and arrange to contact them when you have arrived at your destination.
- They should be instructed that if you do not contact them by a certain time to get in touch with one of the three search and rescue centres.
- If you change your plans while under way, call your home club or the person that knows your plans and possibly the police. This allays worry and prevents a needless alert that might set off a comprehensive air and marine search.
- Carry the required charts and a serviceable compass in your boat at all times.
- Always carry the international distress signal. This is a square flag or an object resembling a square flag, and a ball or other circular object hoisted either above or below it. Flag and ball need not be of any particular colour, but the brighter they are, the better.

Two-way radiotelephone can provide a very effective means of obtaining help in cases of emergency if properly used. Coast stations operated by the Ministry of Transport are strategically located on the sea coasts and Great Lakes in Canada. All these stations maintain guard on international radiotelephone distress and calling frequency of 2182 Kc/s during the season of navigation. A similar service is provided on the U.S. coasts by the U.S. Coast Guard.

Many thousands of Canadian pleasure and commercial craft are fitted with radiotelephone and also maintain guard on 2182 Kc/s while at sea.

If you use two-way radiotelephone aboard your boat, the greatest efficiency in communication can be obtained by applying the correct procedures for calling and answering other stations and passing messages or

information. Such procedures and other pertinent information relative to the licensing and operating of radiotelephone equipment may be found in the Ministry's booklet entitled "Radiotelephone Handbook (Maritime Services)", which can be obtained free of charge from any Radio Inspection Office, Telecommunications and Electronics Branch, Ministry of Transport.

Weather Information
Small Vessel operators and boating enthusiasts in general are reminded of the importance they should attach at all times to the obtaining of information on the weather that may be expected in their areas.
Information on weather is widely disseminated throughout Canada by the daily press, as well as by radio-broadcast on the normal listening channels.

Persons operating pleasure boats whose equipment includes a radio-receiver should acquaint themselves with the times at which weather news is broadcast in their areas, having full regard to the rapid changes that may occur at any time.

Weather-Broadcasting System — National
Commencing by the end of 1971, the Canadian Broadcasting Corporation will broadcast weather information continuously on 161.65 megacycles. The first area to be so covered is that of the Great Lakes, whose existing eight stations between Kingston and the Lakehead will provide this service.

Fishermen and Hunters
Here are some special tips for you.
(a) Do not wear high cut boots, particularly of the open top rubber boot variety, in open boats. Carry a second pair of ankle boots for wearing in the boat.
(b) Do not stand up to fish or hunt in small boats; remain seated.
(c) Be particularly careful that with your extra clothing and equipment, you do not overload your boat.
(d) Do not attempt to take a small boat out into water where, if the weather deteriorates, you are unable to reach safety quickly.
(e) Canoes should not be used for fishing or hunting, unless you are an experienced canoeer. These craft are particularly dangerous if not handled by an expert.
(f) Your chances of survival when falling into the water, in the fall and spring, are reduced considerably because of the low water temperature.

Overloading of Rowboats
Overloading is dangerous. Because there are so many types of small boats, specific advice to cover all contingencies about overloading is not practical. How many people can be safely carried depends on several factors: type of boat, distribution of passengers and other equipment to be carried, etc. Common sense should rate highly here.

Your Lifejacket
Your lifejacket should be a model approved by the Ministry of Transport which means that a prototype of this model has been tested to standards formulated by a Committee under the auspices of the Canadian Government Specification Board and recognized by the Ministry.

The prototype testing includes laboratory tests of all the materials and component parts of the lifejacket, which is itself tested for performance capabilities by officials of the Ministry.

This jacket is intended to help you save your life in the event you should become involved in an accident and find yourself in the water. To assist you in this end, the following points are brought to your attention:

- Try the lifejacket out. Put it on and familiarize yourself with the tie tape arrangements.
- The jacket is completely reversible and it is important with the keyhole style that the waist straps be tied around the body and not around the lifejacket, so the jacket is allowed to pivot away from the body and give the desired, inclined backward, floating position.
- In order to familiarize yourself with the jacket's capabilities in the water, you should wade out into water about chest deep and by bending your knees let the buoyancy of the jacket support you. You will find that the lifejacket will incline you in a backward position with your mouth clear of the water.
- If you have to swim while wearing a lifejacket, use a back or side stroke.
- Once you have made yourself familiar with the performance characteristics of the lifejacket, the responsibility for maintaining the jacket in good condition rests with you.

The following points will assist you in the maintenance of this lifejacket:
(a) Do not abuse it by using it for any other purpose such as a seat cushion, boat fender or kneeling pad.
(b) When dry, stow in well-ventilated, cool areas.
(c) When wet, hang up to dry in the open air in a ventilated area. Do not dry in front of a radiator or other source of direct heat.

Kapok lifejackets are susceptible to rough treatment and if the vinyl inserts which contain the Kapok become split or torn, allowing water to come in contact with the Kapok, the fibres can become water-logged and matted and lose their buoyant properties.

If the jacket shows signs of heaviness and dampness it should be discarded.

Unicellular foam jackets are more durable than the kapok-filled style. Rough treatment, however, will break down the foam cells and the foam tends to shrink with age, which is also accelerated by excessive exposure to heat and sunlight.

Children should be made to wear their lifejackets at all times when boating. They should be taught how to don them and be allowed to try them out in the water. It is important that youngsters feel comfortable, know what the lifejacket is for and how it will keep them afloat. Parents should note, however, that no lifejacket will take the place of adult supervision.

The Ministry of Transport issues, as a rough guide only, the following notice for posting at holiday resorts, boat hiring stations and camp sites.

Length of Boat	Number of persons	Max. Weight Load
10'	2	410 lbs
12'	3	575 lbs
14'	4	740 lbs
16'	5	975 lbs

For rough water conditions it would be advisable to remove one person from the boat before starting out. However, common sense should dictate whether the boat should put out at all in bad weather, and this is particularly applicable to boats under 10 feet in length which may be suitable for operation only in calm conditions.

Overloading and Overpowering of Power Boats
Although the above rules may be considered as a guide to the loading of rowboats, they do not apply when a motor is attached to the boat. It is particularly important that an inexperienced person should be careful when attaching his motor to a hired boat. Concentrating on starting his motor, he frequently ignores the rudder position so that the quick turn, made by the boat on starting, results in a capsized.

The desirability of having a sound recommendation on the loading and powering of small outboard boats is of such importance that this is now required by regulations.

Fire Extinguishers
Fire extinguishers required by Small Vessel Regulations shall be of a type approved for marine use by: (1) Underwriters Laboratories, Inc. (2) Underwriters Laboratories of Canada, or (3) The British Ministry of Transport or Ministry of Civil Aviation

Leakage of Gasoline
Inboard engines that use gasoline as a fuel should have a drip pan covered with wire gauze fitted under the carburetor as well as suitable means for preventing gasoline from leaking into the bilges. In addition, if such engines are installed below decks, or enclosed in any way, back-fire flame arrestors should be fitted.

Ventilation of Gasoline Powered Boats
The Small Vessel Regulations require that any enclosed space in which an inboard gasoline engine is installed shall be efficiently ventilated by the installation of suitable ventilators or an exhaust fan. Although this applies only to inboard engines, it is nevertheless recommended that all enclosed spaces in both inboard and outboard powered boats be well ventilated if they contain fuel tanks or other sources of gasoline.

Children, because of the distribution of body weight and their tendency to panic when finding themselves suddenly in an environment to which they are not accustomed are difficult subjects to float in a safe position. The violent movement of their arms and legs in an attempt to "climb out" of the water, tends to nullify the effects of the lifejacket. Approved lifejackets will keep them afloat but not always in a face up position. Therefore, the most important thing to remember is that a lifejacket on a child is no substitute for parental or adult vigilance.

Recommended Safe Load and Horsepower
The law requires that every pleasure boat 16 feet long, or under, powered with an outboard motor or motors totalling 10 horsepower or more, shall carry a plate issued by the Ministry of Transport stating the maximum load and horsepower recommended for it.

The Ministry of Transport recommended horsepower capacities are based on the actual performance of a large number of outboard motorboats tested on standard evaluation courses. Canadian boat manufacturers and importers participate in these tests, which are held frequently for the purpose of assessing and comparing the performance of the latest boat designs against the recommended capacities.

The importance of efficient motor wells and of motor and steering controls forward of amidships is reflected in the horsepower ratings.

The capacity plates are dark blue with silver lettering and carry this wording:



Applications for these plates are obtainable from any Customs Office, Steamship Inspection Office, or from the Ministry of Transport, Ottawa. Fill in all particulars, including the measurements asked for, and send the form, in the addressed postage free envelope provided, to Ottawa, with the fee of \$1.00.

Issued by the
Ministry of Transport
Ottawa, Canada, 1971

Explosions and fires can occur when an enclosed space is inadequately ventilated and contains an accumulation of gasoline vapours. Accidental explosions usually occur during the process of starting the engine and can produce disastrous results.

Efficient ventilation is achieved by fitting at least two ventilation ducts in each space containing engines or fuel tanks, one for exhaust and one for supply. An exhaust duct should lead from the bilges under the engines or fuel tanks to the atmosphere and a supply duct should extend from the atmosphere to a level below that of the carburetor intake. Supply and exhaust ducts should be as far apart as possible and arranged to give efficient ventilation of the space with the supply cowls at least four inches higher than the exhaust outlets. The minimum of two mentioned above may not be sufficient, depending on the size and arrangement of your boat, and additional ventilation should be fitted as necessary. Care should be taken that in boats with deep V bottoms, no pockets of gas accumulate due to lack of proper ventilation.

Each duct opening should be the same size and it is recommended that the minimum area of a duct opening should be equivalent to one square inch per foot of beam. The exterior ends of the ducts should have obstructed cowls or equivalent fittings with openings at least equal in area to the ducts.

The outlet ventilating ducts may be fitted with wind-actuated self-trimming or rotary exhauster heads or with a power operated exhaust fan.

If a power operated exhaust fan is fitted, the electric motor and the switch for operating the fan should be installed outside of the ventilation duct and preferably outside of the machinery space. Where this is impracticable, the motor and/or the switch may be installed within the machinery space if they are explosion-proof. A good location for the fan is just under the deck at the side.

Care should be taken to run an exhaust fan for about five minutes before attempting to start the engine.

Liquefied Petroleum Gases
Liquefied petroleum gases such as propane, butane, etc. are coming into greater use on pleasure craft. These gases can create an even more hazardous condition on board ship than gasoline and, for this reason, their use is forbidden by law on passenger carrying ships. Propane and butane are heavier than air and will, therefore, flow rapidly into the lower parts of the boat where they are extremely difficult to dislodge.

If you should install such equipment on your boat, be sure that the installation is in accordance with that of a governmental or equally impartial authority. For this purpose, you will find the Liquefied Petroleum Gas Regulations useful. These regulations apply to boats other than pleasure craft, but the requirements are equally as sound for pleasure craft as for work boats. A copy of these regulations may be obtained by application to the Queen's Printer, Ottawa.

Precautions when fuelling
1. Take portable tanks ashore. 2. No smoking. 3. Boat securely moored. 4. Hatches and doors closed. 5. No electrical switching. 6. Extinguish open flames. 7. Passengers ashore. 8. Hold nozzle firmly against fill pipe. 9. Don't overfill. 10. Wipe up any spillage. 11. Open up and ventilate. 12. Test. Use your nose. 13. Start engines. 14. Passengers re-embark. 15. Cast off.

DO	DONT
<ul style="list-style-type: none">Head for the closest safe anchorage or landing when a storm threatens and avoid the temptation to "buck it".Observe the regulations regarding the presence of life-saving equipment, using only that stamped or labelled "approved" by the Department of Transport.Assist any boat in distress. The waving, in a vertical circular motion, of a piece of light coloured material or a light by night is a distinctive distress signal.Slow down when passing dredges or water where divers may be working.Slow down when making sharp turns, or in bad weather.Slow down when passing row boats and canoes, especially in narrow waters.Learn the Rules of the road—and practise them.When operating at night, carry a few red flares in a watertight container, the red flares used on railroads are efficient and inexpensive.Keep the bilges of the boat clean, free of oil, gasoline and rags, etc. Vent any enclosed areas into the open air.Check the battery and its ventilation.Respect your boat and know its limitations.Follow the regulations regarding fire precautions and fire extinguishing equipment.Carry an anchor and sufficient length of sound cable, rope or chain—at least five times the average anchorage depth. Be sure that the inboard end of the line is securely fastened to the boat.Wear a lifejacket when in small boats whether or not lifesaving cushions are carried.Where practicable join a yacht or boat club and keep fully informed on regulations, etc.When engaged in extended cruising carry the latest corrected charts and related publications in your boat at all times.	<ul style="list-style-type: none">Stand up or charge seats in a small boat, particularly when the boat is full. If necessary, crouch low and keep the weight on the boat's centerline, holding on to both gunwales.Operate near swimmers.Mix liquor and boating.Use a leaky or poorly built boat.Cruise fast enough to create a dangerous swell when near small boats.Leave your tiller or steering wheel unattended, especially when under way in harbours, anchorages or narrow channels.Throw garbage overboard.Blow your horn or use the spotlight unnecessarily.Wait until the last minute to signify your intentions of obeying the Rules of the Road.Anchor close to other boats.Cruise at high speed in or near an anchorage.Hold impromptu races with other boats, since row boats, canoes and other very small craft are endangered by the wash.Attempt to swim ashore if your boat is capsized or swamped. Hang on to the boat until you are picked up.Be a "show-off"."Buzz" bathing beaches; swimmers are hard to see in the water.Carry out-dated charts and related publications in your boat. Always use the latest corrected editions at all times.

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BOATING SAFETY GUIDE

ministry of transport
ottawa

APR 16 1974
UNIVERSITY OF TORONTO

LIGHTS FOR VESSELS NOT OVER 65 FEET IN LENGTH, IN CANADIAN WATERS

N.B. BOATS SAILING OUTSIDE CANADIAN WATERS ON BOTH EAST AND WEST COASTS MUST BE EQUIPPED WITH LIGHTS INDICATED BY AN ASTERISK *

LIGHTS

TO BE CARRIED FROM SUNSET TO SUNRISE

UNDER POWER ALONE OR UNDER SAIL AND POWER

26' AND UNDER IN LENGTH

OVER 26' IN LENGTH

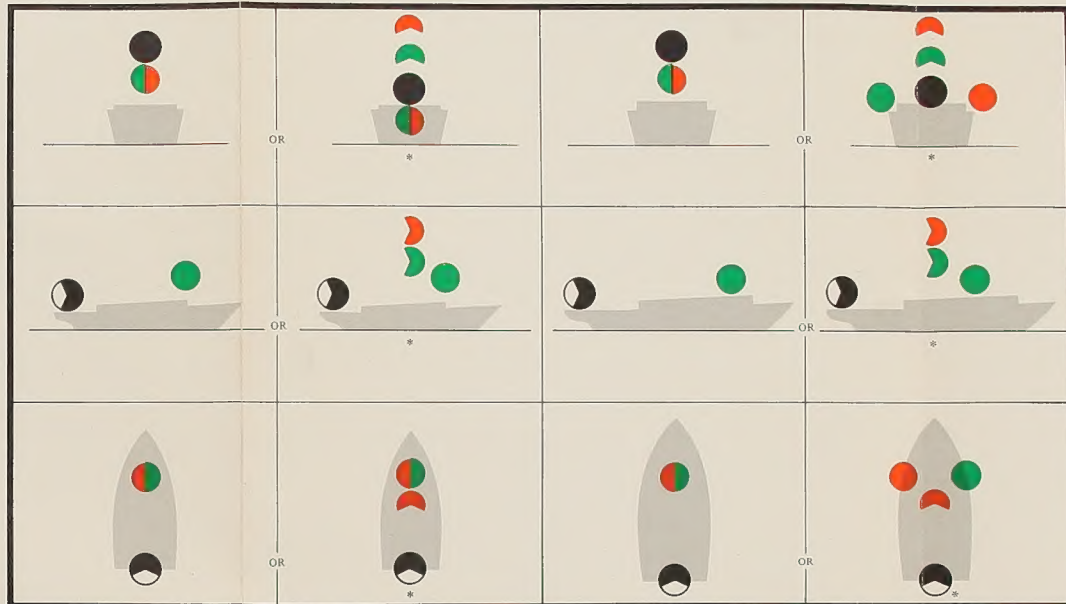
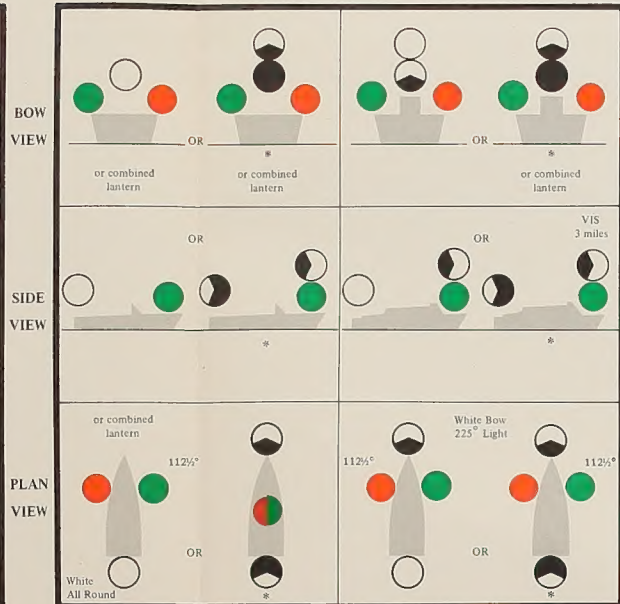
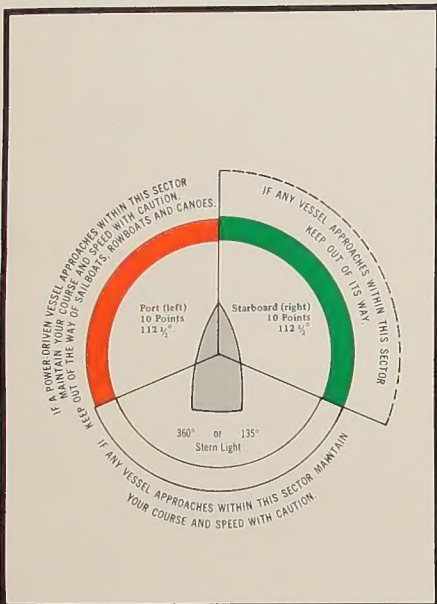
UNDER SAIL ALONE

UNDER 40' IN LENGTH

40' IN LENGTH AND OVER

SYMBOLS FOR LIGHTS

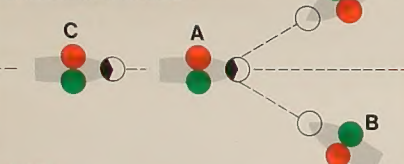
AS USED IN THIS GUIDE



AIR CUSHION VEHICLES HAVE ADDITIONAL ALL ROUND YELLOW LIGHT - FLASHING SIXTY TIMES PER MINUTE

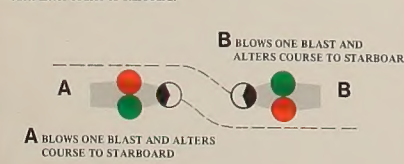
SOME STEERING AND SAILING RULES - ILLUSTRATED

A KEEPS CLEAR OF **B**
B KEEPS CLEAR OF **D**
C KEEPS CLEAR OF **A** AND **B**
D KEEPS CLEAR OF **A** AND **C**



WARNING
In a narrow channel a power-driven vessel of less than 65 feet in length must not hamper the safe passage of a vessel which can navigate only inside such channel.

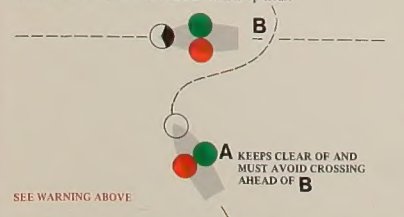
Two Power-driven vessels meeting 'Head On', each alters course to starboard.



A BLOWS ONE BLAST AND ALTERS COURSE TO STARBOARD
B BLOWS ONE BLAST AND ALTERS COURSE TO STARBOARD

SEE WARNING ABOVE

Two power-driven vessels crossing. The vessel which has the other on her own starboard side shall keep clear.



A KEEPS CLEAR OF AND MUST AVOID CROSSING AHEAD OF **B**

SEE WARNING ABOVE

Air cushion vehicles when operating over water are required to obey the same rules as other power-driven vessels.

WHISTLE SIGNALS

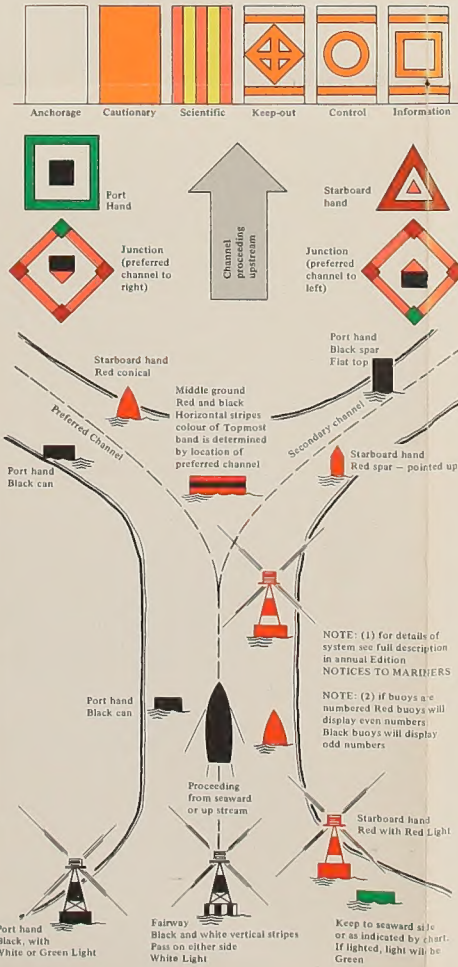
Great Lakes
(a) One blast—means "Altering course to starboard".
(b) Two blasts—mean "Altering course to port".
(c) Five or more blasts—mean "Emergency or danger signal" or "signal not understood".

Note: Every power-driven vessel receiving such a signal from another shall promptly respond with the same signal or sound the danger signal.

Waters Other Than the Great Lakes
(a) One blast—means "Altering course to starboard".
(b) Two blasts—mean "Altering course to port".
(c) Three blasts—mean "My engines are going astern".
(d) Five or more blasts—mean "Emergency or danger signal" or "signal not understood".

Exemptions
A vessel not over 26 feet in length is not required to sound the manoeuvring signals, but if she does not do so she shall be manoeuvred in such a manner as will prevent risk of collision or misunderstanding with any other vessel.

CANADIAN BUOYAGE SYSTEM



REQUIREMENTS FOR PLEASURE CRAFT

under the Small Vessel Regulations
(Recommended on rowboats and canoes, mandatory on power and sailing craft).

NOTE: "Approved" means approved by the Ministry of Transport.

- Not Over 18 Feet in Length*
- One approved small vessel lifejacket or lifesaving cushion for each person on board.
 - Two oars and rowlocks or two paddles.
 - One bailer or one manual pump.
 - If equipped with an inboard motor, permanently fixed or built-in fuel tanks or a cooking or heating appliance that burns liquid or gaseous fuel, one class BI fire extinguisher.

- Over 18 Feet But Not Over 26 Feet in Length*
- One approved small vessel lifejacket for each person on board.
 - Two oars and rowlocks, two paddles or one anchor with not less than 50 feet of cable, rope or chain.
 - One bailer or one manual pump.
 - If the vessel is power-driven or is equipped with a cooking or heating appliance that burns liquid or gaseous fuel, one class BI fire extinguisher.

- Over 26 Feet But Not Over 40 Feet in Length*
- One approved small vessel lifejacket for each person on board.
 - One approved lifebuoy 30 inches, 24 inches or 20 inches in diameter.
 - One buoyant heaving line of not less than 50 feet in length.
 - One bailer and one manual or power-driven bilge pump.
 - Twelve pyrotechnic distress signals in a watertight container, of which not more than six may be daylight smoke signals.
 - One anchor with not less than 50 feet of cable, rope or chain.
 - If the vessel is power-driven or is equipped with a cooking or heating appliance that burns liquid or gaseous fuel, one class BI fire extinguisher.
 - Sufficient lights and sound signalling apparatus to permit the vessel to be operated in compliance with Part VI of Small Vessel Regulations.

- Over 40 Feet But Not Over 65 Feet in Length*
- One approved standard lifejacket or one approved small vessel life jacket for each person on board.
 - One approved 30 inch lifebuoy or two approved 24 inch diameter lifebuoys.
 - One buoyant heaving line of not less than 50 feet in length.
 - Twelve pyrotechnic distress signals in a watertight container, of which not more than six may be daylight smoke signals.
 - One anchor with not less than 50 feet of cable, rope or chain.
 - Two fire buckets.
 - One manual or power-driven pump located outside the machinery space with one fire hose and nozzle whereby a jet of water can be directed into any part of the vessel.
 - Efficient bilge pumping arrangements.
 - If the vessel is power-driven or is equipped with a cooking or heating appliance that burns liquid or gaseous fuel, one class BI fire extinguisher.
 - Sufficient lights and sound signalling apparatus to permit the vessel to be operated in compliance with Part VI of Small Vessel Regulations.

- Over 65 Feet in Length*
- One approved standard lifejacket or one approved small vessel life-jacket for each person on board.
 - Two approved 30 inch diameter lifebuoys, one with a self-igniting light attached.
 - One buoyant heaving line of not less than 90 feet in length.
 - Twelve pyrotechnic distress signals in a watertight container of which not more than six may be daylight smoke signals.
 - One anchor with not less than 50 feet of cable, rope or chain.

- Four fire buckets.
- Two fire axes.
- One power-driven pump located outside the machinery space with one fire hose and nozzle whereby a jet of water can be directed into any part of the vessel.
- Efficient bilge pumping arrangements.
- In each accommodation space, one class AII fire extinguisher but in no case need more than three such extinguishers be carried.
- In the machinery space, two class BII fire extinguishers, one located near the entrance.
- Sufficient lights and sound signalling apparatus to permit the vessel to be operated in compliance with the Regulations for Preventing Collisions at Sea or the Rules of the Road for the Great Lakes.

RACING TYPE VESSELS

Racing type vessels, when engaged in racing or preparation for racing and operated in conditions of clear visibility may carry, in lieu of the equipment prescribed elsewhere in this part:

- One approved racing type lifejacket, to be worn by the operator at all times and
- If fitted with an inboard motor, one class BI fire extinguisher.

EQUIVALENT FIRE EXTINGUISHERS

Class	Soda Acid and Water		Foam		Carbon Dioxide Gas		Dry Chemical	
	GALLONS	POUNDS	GALLONS	POUNDS	POUNDS	POUNDS	POUNDS	POUNDS
AI	1	1	—	—	—	—	—	—
AII	2	2	—	—	—	—	—	—
BI	—	—	1	5	—	—	2	—
BII	—	—	2	10	—	—	5	—

General Notes

Small amphibious air cushion vehicles are being increasingly used as pleasure craft and the attention of the boating public is directed to some of their manoeuvring peculiarities.

The A.C.V. has virtually no contact with the surface of the water when in operation and it is therefore less responsive to steering controls than are vessels with displacement hulls. This lack of contact results in the bows of the A.C.V. being pointed up-wind of the vessel's line of advance and the A.C.V.'s heading is therefore no indication of its true forward motion.

Strong following winds assist A.C.V.'s to reach very high speeds, but to offset this they are capable of being "ditched" readily and safely in a very short stopping distance.

Below the "hump speed", of about seven knots for the average two-seater A.C.V., the craft operator like a vessel with a displacement hull, it creates a considerable wash and is difficult to manoeuvre. However, once its "hump speed" is attained the A.C.V. creates no wash and handles much easier.

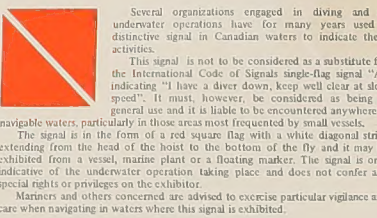
A.C.V.'s are subject to the International Regulations for Preventing Collisions at Sea and the Rules of the Road for the Great Lakes.

Recommendations to A.C.V. Operators

- Always be aware of wind direction and strength.
- Keep a constant check of speed at all times in relation to other watercraft, especially when travelling with a tail wind.
- Always make steering control movements well in advance of the intended turning point.
- Maintain speed above "hump speed" when near boats or swimmers to reduce wash and provide controllability but never exceed 20 knots when within 50 yards of any shore.
- Always keep a lookout for swimmers to make aware they are not the "obstacles" over which the A.C.V. is so capable of travelling.

Recommendations to Other Water Craft Operators

- Always be aware of the A.C.V.'s peculiarities in that its fore and aft position is not necessarily a true indication of its course.
- Do not expect an A.C.V. to slow down below hump speed when approaching other boats, swimmers or land because these craft are less disturbing and hazardous when travelling above this speed.



In general power-driven vessels are required to keep out of the way of sail boats, rowboats and canoes, but every operator must keep a proper lookout and must take every precaution which may be required by the ordinary practice of seaman, or by the special circumstances of the case.